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HHE UNIVERD SHAHES OF AMERIOR

TO ALL TO WHOM: THESE: PRESENTS SHAVE COME;

Spugenta seeds, Inc.

THE LECENS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS OM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, ONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN ING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY TION ACT. (84 STAT: 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'S10-F2'

In Vestimonn Incress, I have hereunto set my hand and caused the seal of the Plant Pariety Arciection Office to be affixed at the City of Washington, D.C. this third day of December, in

REPRODUCE LOCKLLY. Include form number and date on all reproduction u.s. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE				The following state nexts are made in accordance with the Privacy Act of 1974 of 1974 of 1974				
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICAT			ICIO A TT	THE STATE OF THE S				
(Instructions and informatio	n ∞llection burden statemen	t on reve	irica i E	(7 0.3.6, 2421)	, information is held confident.	al until certific	ale is issued (7 U.S.C. 2426).	
1 NAME OF OWNER	-	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME			3. VARIETY HAME			
Syngenta Seeds, Inc.					L428642, X9	910	S10-F2	
4 ADDRESS (Street and No., or R.F.D. No.		5. TELEPHONE (include area code)			FOR OFFICIAL TISE ONLY			
P.O. Box 959 Minneapolis MN, 55440				763-593-7333			PVPO NUMBER	
					6. FAX (include area code)	2 00	1002079	
					763-593-78			
7 IF THE OWNER NAMEO IS NOT A PER	SONT CASE FORM OF						FILING DATE	
ORGANIZATION (corporation, partnershi) Corporation	p, association, etc.)	STA	CORPORATE TE OF INCOR	PORATION	9. DATE OF INCORPORAT	юн	May 3, 2001	
		<u> </u>	elawar		1976			
10. NAME AND ADDRESS OF OWNER REP	PRESENTATIVE(S) TO SERVE IN THI	S APPLICA	ATION. (First p	erson listed will re	ceive all papers)		FILING AND EXAMINATION FEES:	
John C. Thorne	T						: 2,705.00	
Syngenta Seeds, P.O Box 949	, inc.		-				R DATE FUNE 29, 2001	
Washington, IA	52353						C CERTIFICATION FEE:	
				•			S S	
			<u> </u>				DATE	
TELEPHONE (Include area code)	12. FAX (Include area code)		13. E_MAR			14. CROP	KIND (Common Name)	
319-65 2 -2181 67: 4(3/0)	319-653-4609	i	Johna	Thorn	e@syngenta.c	om	Soybeans	
			16. FAMILY	AMILY NAME (Bolanical) 17. IS THE VARIETY A FIRST GE HYBRIO7				
Glycine max			Lec	uminosa	J YES √J HO			
. CHECK APPROPRIATE BOX FOR EACH .	ATTACHMENT SUBMITTED (Follow Y	nstructions	on t		MNER SPECIFY THAT SEED OF EED? See Section 83(a) of		IETY BE SOLD AS A CLASS OF	
a, 1 Exhibit A. Origin and Breeding H	•			Пи	ES (If yes, answer tems 20 and 21 below)	£		
b. Exhibit B. Statement of Distinction c. C. Exhibit C. Objective Description			21	J. DOES THE OV OF GENERATI	WHER SPECIFY THAT SEED O	F THIS VAR	ETY BE LIMITED AS TO NUMBER	
d. Exhibit O., Additional Description of the Variety (Optional) e. Exhibit E. Statement of the Basis of the Owner's Ownership								
Voucher Sample (Z.500 viable or verification that bissue culture will	otreated seeds or, for tuber propagated be deposited and maintained in an ap-	d varieties, oproved pu	10 Z	I. IF YES TO IT	EM 20, WHOCH CLASSES OF I	ROOUCTIO	N BEYOND BREEDER SEED?	
g. XI Fling and Examination Fee (\$2.4 States" (Mail to the Plant Variety	50), made psymble to "Tressurer of the	e United		☐ F0	UNDATION TREGIST	TERED [] CERTIFIED	
HAS THE VARIETY (INCLUDING ANY HAR FROM THIS VARIETY BEEN SOLD, DISPO	·	PRODUCE	D 23	L IS THE VARIET	TY OR ANY COMPONENT OF	THE VARIET	Y PROTECTED BY INTELLECTUAL	
OTHER COUNTRIES?	to be His/or K			PROPERTY RO	GHT (PLANT BREEDER'S RIG	HT OR PATE	⇒1177 za bt:Zlabı per esplic	
FOR EACH COUNTRY AND THE CATE	OF FIRST SALE, DISPOSITION, TRA	NSFER O	RUSE	IF YES, PLEASE	:3 E GIVE COUNTRY, DATE OF F UMBER, <i>(Please use space in</i>	SI RO DIVINI 21 RO DIVINI 22 RO DIVINI	SULVICE AND ASSIGNED	
The owners declare that a viable sample of b	passic seed of the variety will be furnish	ed with ap	plication and w	ill be replanished	upon request in accordance wit			
for a tuber propagated variety a tissue culture. The undersigned owner(s) is(are) the owner.	of this sexually reproduced or tuber pr	person	plant variety, a			orm, and stat	ole as required in Section 42,	
and is entitled to protection under the provisi Owner(s) is(are) informed that take represen								
WITHER OF OWNER	11	······	SH	SNATURE OF OV	VNER.			
you !	Low							
E (Pipese print or type)	•		NA.	ME (Please print	or type)			
John C. Thorne						<u>-</u>		
caroname Director of Soybe	Pan Breeding 4-	16-01	CA	PACITY OR TITU	E .		DATE	
DITECTOR OF SOADE	an presding (•					:L	

2T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces ST0-470 (03-96) which is obsolete.

EXHIBIT A

Origin and Breeding History of S10-F2

In the summer of 1992 the Syngenta Seeds, Inc. (formerly Novartis Seeds, Inc. or Northrup King Co.) breeding group at Washington, IA, made the cross, Exp. 91133 x Exp. C319428, from which the variety S10-F2 was derived. Exp.91133 is a genotype developed by Midwest Oilseeds. Exp. C319428 is an unreleased experimental line developed by Syngenta from the cross 'McCall' x 'S19-90'. McCall is a public cultivar developed by the University of Minnesota. S19-90 is a cultivar developed and marketed by Syngenta Seeds.

The F1 and F2 generations were grown at the Syngenta Seeds, Inc., Research Center near Kekaha, Kauai, HI, in the winter of 1992-93. The F3 generation was grown at Washington in the summer of 1993; the F4 and F5 in Kekaha in the winter of 1993-94, and the F6 at the Syngenta Seeds, Inc. Research Center at London, Ontario, in the summer of 1994. The F2 through F5 generations were advanced using a modified system of single seed descent. Single F6 plants were harvested in the fall of 1994 and threshed individually. The progeny from these plants were yield tested in a preliminary yield trial in the summer of 1995. One of these, designated L428642, was chosen for advancement. L428642 was tested in extensive replicated trials in the central United States and southern Ontario from 1996 through 2000 and found to perform well compared to other early Maturity Group 1 varieties. It was tested in the greenhouse at the Syngenta Seeds, Inc. Research Center at Bay, AR, for resistance to *Phytophthora sojae* and found to have the Rps1-c gene for resistance. It was tested at several field locations in Iowa and Minnesota for iron deficiency chlorosis and found to be tolerant. It was also found to have purple flowers, light tawny pubescence, tan pod walls, and seed with yellow seed coats and black hila (may contain up to 2% other hilum color). In 1999 and 2000 it was tested under the experimental designation X9910, and based on its yield superiority, it was released as S10-F2.

During the winter of 1996-97, approximately 500 seeds of S10-F2 were rogued for hilum color and planted in Kekaha. This increase was rogued for flower, pubescence, and pod color, and approximately 150 plants were harvested individually. The seed from each plant was planted as a progeny row at London in the summer of 1997. The increase was rogued carefully at flowering and maturity, and any rows with off-type plants were removed. The remaining rows were bulk harvested to produce Pre-breeder seed. The seed from this increase was planted at London in the summer of 1998, rogued carefully during the growing season, and harvested to produce Breeder Seed.

Foundation seed of S10-F2 was produced by Syngenta Seeds, Inc. in the summer of 1999 and again in the summer of 2000. These increases were found to meet Syngenta Seeds, Inc. standards for Foundation Seed.

S10-F2 is uniform and stable within a purity level of 99% (98% for hilum color). During the four years of testing and three years of seed increase, we have observed no variants. Any off-type plants removed from increase fields were assumed to have arisen from admixture or out-crossing. Varietal purity will be maintained using progeny rows as needed for the life of the variety.

Exhibit B

Statement of Distinctness for the Variety S10-F2

Soybean variety S10-F2 is most like the varieties 91B01 and S 08-80. It can be differentiated from both of these varieties on the basis of pubescence color. S10-F2 has light tawny pubescence; 91B01 and S 08-80 have tawny pubescence. It can be differentiated from the parent variety 91133 on the basis of pod wall color. 91133 has brown pods; S10-F2 has tan pods. It can be differentiated from the other parent, experimental C319428, on the basis of hilum color. S10-F2 has seed with black hila; C319428 has seed with gray hila.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY

SOYBEAN (Glycine max L.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION VARIETY NAME
Syngenta Seeds, Inc.	S10-F2
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Coo	
PPO Box 959 Minneapolis, MN 55440	200100203 "
	riety in the features described below. When the number of significant digits, place a zero in the first box when number is 9 or less (e.g., $\boxed{0}$ $\boxed{9}$).
1. SEED SHAPE:	\circ
1 = Spherical (L/W, L/T, and T/W ratios = < 1.2) 3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)	T 2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2) 4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)
2. SEED COAT COLOR: (Mature Seed)	
1 = Yellow 2 = Green 3 = Brown	4 = Black 5 = Other (Specify)
3. SEED COAT LUSTER: (Mature Hand Shelled Seed)	
1 = Duil ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebs	soy'; 'Gasoy 17')
4. SEED SIZE: (Mature Seed)	
1 5 Grams per 100 seeds	
5. HILUM COLOR: (Mature Seed)	
6 1 = Buff 2 = Yellow 3 = Brown May contain up to 2% other h	4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) ilum color
6. COTYLEDON COLOR: (Mature Seed)	
1 = Yellow 2 = Green	
7. SEED PROTEIN PEROXIDASE ACTIVITY:	
1 = Low 2 = High	
8. SEED PROTEIN ELECTROPHORETIC BAND:	
1 = Type A (SP1 ^a) 2 = Type B (SP1 ^b)	
9. HYPOCOTYL COLOR:	
1 = Green only ('Evans'; 'Davis') 2 = Green wit 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71') 4 = Dark Purple extending to unifoliate leaves ('Hodgson';	
10. LEAFLET SHAPE:	
3 1 = Lanceolate 2 = Oval 3 = Ovate	4 = Other (Specify)

FORM LMGS-470-57 (2-82)

11. LEAFLET SIZE:	
1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17') 3 = Large ('Crawford'; 'Tracy')	200100203
12. LEAF COLOR:	
1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Brax 3 = Dark Green ('Gnome'; 'Tracy')	cton'}
13. FLOWER COLOR:	
2 1 = White 2 = Purple 3 = White with purple throat	
14. POD COLOR:	
1 = Tan 2 = Brown 3 = Black	
15. PLANT PUBESCENCE COLOR:	
1 = Gray 2 = Brown (Tawny) Light Tawny	· · · · · · · · · · · · · · · · · · ·
16. PLANT TYPES:	
1 = Siender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton') 3 = Bushy ('Gnome'; 'Govan')	
17. PLANT HABIT:	
1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will') 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')	
18. MATURITY GROUP:	
4 1 = 000 2 = 00 3 = 0 4 = 1 5 = II 6 = III 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X	7 = IV 8 = V
19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)	
BACTERIAL DISEASES:	•
Bacterial Pustule (Xanthomonas phaseoli var. sojensis)	
O Bacterial Blight (Pseudomonas glycinea)	
Wildfire (Pseudomonas tabaci)	
FUNGAL DISEASES:	
0 Brown Spot (Septoria glycines)	
Frogeye Leaf Spot (Cercospora sojina) Race 1 Race 2 Race 3 Race 4 Race 5	Other (Specify)
O Target Spot (Corynespora cassiicola)	
Downy Mildew (Peronospora trifoliorum var. manshurica)	
O Powdery Mildew (Microsphaera diffusa)	
Brown Stem Rot (Cephalosporium gregatum)	
O Stem Canker (Diaporthe phaseolorum var. caulivora)	.

19. DISEASE REACTIO	N: (Enter 0 = Not Tested; 1 = Susceptible; 2 =	Resistant) (Continued)						
FUNGAL DISEAS	ES: (Continued)		200100203					
Pod and Ste	m Blight <i>(Diaporthe phaseolorum</i> var; <i>sojae)</i>							
1 Purple Seed	Stain (Cercospora kikuchii)							
1 Rhizoctonia	Root Rot (Rhizoctonia salani)							
Phytophtho	ra Rot (Phytophthora megasperma var. sojae)	·						
2 Race 1	Race 2 2 Race 3 1	Race 4 Race 5	Race 6 2 Race 7					
Race 8	Race 9 Other (Specify)	s1-C	**************************************					
VIRAL DISEASES	:							
O Bud Blight (Tobacco Ringspot Virus)							
O Yellow Mosa	ic (Bean Yellow Mosaic Virus)							
O Cowpea Mos	aic (Cowpea Chlorotic Virus)							
O Pod Mottle (O Pod Mottle (Bean Pod Mottle Virus)							
O Seed Mottle	(Soybean Mosaic Virus)	•						
NEMATODE DISE	ASES:							
Soybean Cys	t Nematode (Heterodera glycines)							
1 Race 1	Race 2 1 Race 3	Race 4 Other	(Specify)					
0 Lance Nema	Lance Nematode (Hopiciaimus Colombus)							
Southern Root Knot Nematode (Meloidogyne incognita)								
0 Northern Ro	Northern Root Knot Nematode (Meloidogyne Hapla)							
0 Peanut Root	Knot Nematode (Meloidogyne arenaria)							
O Reniform Ne	matode (Rotylenchulus reniformis)							
OTHER DISE	OTHER DISEASE NOT ON FORM (Specify):							
20. PHYSIOLOGICAL RE	SPONSES: (Enter 0 = Not Tested; 1 = Susception	tible: 2 = Resistant)						
2 Iron Chlorosis on Calcareous Soil Moderately Resistant Other (Specify)								
21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)								
Mexican Bean Beetle (Epilachna varivestis)								
O Potato Leaf Hopper (Empoasca fabae)								
Other (Specify)								
22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.								
CHARACTER								
Plant Shape	S14-M7	Seed Coat Luster	NAME OF VARIETY					
Leaf Shape	First Line 2801R	Seed Size	91B01					
Leaf Color		Seed Shape						
Leaf Size	First Line 2801R	Seedling Pigmentation	S08-80					
	and a management of the second							

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS	PLANT LODGING	CM PLANT	I TEARLET SIZE SECONDARY		TENT	SEED SIZE	,	
	MATURITY	SCORE	HEIGHT	CM Width	CM Length	% Protein	% Oil	G/100 SEEDS	SEEDS/ POD
Submitted	123	3.1	85	7	10	37.7	22.6	15	
S08-80 Name of Similar Variety	124	3.6	90	7	9	40.0	21.3	20	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

- 1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
- 2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
- 3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
- 4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE	The following statements are ma-	FORM APPROVED - OMB NO. 0581-005 de in accordance with the Privacy Act of
AND STATE AND STATE STAT	1974 (5 U.S.C. 552a) and the Pap	ne in accordance with the Privacy Act of erwork Reduction Act (PRA) of 1995 .
EXHIBIT E	Application is required in order a	
STATEMENT OF THE BASIS OF OWNERSHIP	certificate is to be issued (7 U.S.C. until certificate is issued (7 U.S.C.	o determine if a plant variety protection 2. 2421). Information is held confidentia 2426).
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Syngenta Seeds, Inc.	DR EXPERIMENTAL NUMBER L428642 (X9910)	S10-F2
	[L420042 (X9910)	310-12
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)	5 TO SOUGHE C	
P.O Box 959	5. TELEPHONE (include sies code) 763–593–7333	6. FAX (include area code) 763-593-7801
Minneapolis, MN 55440	7 0000 1000	
	200	600203
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate	block. If no, please explain,	
		X YES NO
 Is the applicant (individual or company) a U.S. national or U.S. based company If no, give name of country 	?	X YES NO
10. Is the applicant the original owner? X YES NO If no, please ans		
X YES NO If no, please ans	wer the fallowing:	
a If original rights to various		
a. If original rights to variety were owned by individual(s), is (are) the	ne original owner(s) a U.S. nationa	l(s)?
YES NO If no, give name of country		
b. If original rights to variety were owned by a company, is the orig		
YES NO If no, give name of country	inal owner(s) a U.S. based compar	ny?
1. Additional explanation on ownership (If needed, use reverse for extra space):		VII
		•
,		
LEASE NOTE:		
ant variety protection can be afforded only to owners (not licensees) who meet on		
If the rights to the variety are owned by the original broader above	,	OV member country, or paringal
the old of the old. To the same	e genus and species.	
If the rights to the variety are owned by the company which employed the original nationals of a UPOV member country, or owned by nationals of a country which genus and species.	al breeder(s), the company must b affords similar protection to nation	e U.S. based, owned by hals of the U.S. for the same
If the applicant is an owner who is not the original owner, both the original owner	and the applicant must meet one	of the above criteria.
original breeder/owner may be the individual or company who directed final breed definition.	fing. See Section 41(a)(2) of the	Plant Variety Protection Act
cording to the Paperwork Reduction Act of 1995, no persons are required to respect to troi number. The valid OMB control number for this information collection is ection is estimated to average 10 minutes per response, including the time for no I maintaining the data needed, and completing and reviewing the collection of info	0361-0033. The time required	unless it displays a valid OMB d to complete this information xisting data sources, gathering

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